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(54) Title: **RA ANTIGENIC PEPTIDES**

(57) **Abstract:** The present invention provides novel naturally-processed MHC class II antigenic peptides; which originate from inter-  
feron- $\gamma$ -inducible lysosomal thiol reductase, integrin beta-2, phosphatidylinositol-4,5-bisphosphate 3-kinase, urokinase-type plas-  
minogen activator, immunoglobulin heavy chain V-III region (V<sub>H</sub>26), DJ-1 protein, apolipoprotein B-100, 26S proteasome non-AT-  
Pase regulatory subunit 8, interleukin-1 receptor, fibromodulin, GM-CSF/IL-3/IL-5 receptor, sorting nexin 3, inter- $\alpha$ -trypsin inhibitor  
heavy chain H4, complement C4, complement C3 ( $\alpha$ -chain), complement C3 ( $\beta$ -chain), SH3 domain-binding glutamic acid-rich-like  
protein 3, interleukin-4-induced protein 1, hemopexin, Hsc70-interacting protein, invariant chain (Ii), retinoic acid receptor responder  
protein 2, fibronectin, cathepsin B, tripeptidyl-peptidase II, legumain, platelet activating factor receptor, poly- $\alpha$ -2.8-sialyltrans-  
ferase, and ras-related protein Rab-11B. Also provided are these antigenic peptides and the proteins they are derived from as markers  
for erosive and/or non-erosive RA. Moreover, these antigenic peptides linked to MHC class II molecules, antibodies reactive with  
said antigenic peptides, nucleic acids encoding said antigenic peptides, and nucleic acid constructs, host cells and methods for ex-  
pressing said antigenic peptides are provided. The antigenic peptides of the invention can be used as markers in diagnosis of RA and  
in therapy as anti-RA vaccines.